

**Supplement Analysis**  
for the  
**Columbia Estuary Ecosystem Restoration Program EA**  
(DOE/EA-2006/SA-05)

**McCarthy Creek Phase II Restoration Project**  
**BPA project number 2010-004-00**  
**BPA contract number 82217**

Bonneville Power Administration  
Department of Energy



### **Introduction**

Bonneville Power Administration (BPA) and the U.S. Army Corps of Engineers (Corps) are partners in the Columbia Estuary Ecosystem Restoration Program (Program), which is a collaboration intended to evaluate, protect, monitor, and restore fish and wildlife habitat in the Columbia River Estuary.

In July 2016, BPA and the Corps completed the Columbia Estuary Ecosystem Restoration Program Environmental Assessment (DOE/EA-2006) (Programmatic Estuary EA). The Programmatic Estuary EA streamlines the environmental review of routine actions with well understood and predictable environmental impacts common to restoration projects in the Columbia River estuary. The purpose of this Supplement Analysis (SA) is to provide site-specific information about an individual restoration project proposed under the Program.

Consistent with the Programmatic Estuary EA, this SA analyzes the proposed McCarthy Creek Phase II Restoration Project, which would restore tidal wetland habitat and floodplain connectivity near the southern confluence of Multnomah Channel with the Columbia River in Multnomah County. This SA analyzes the site-specific impacts of the project to determine if the project is within the scope of the analysis considered in the Programmatic Estuary EA. It also evaluates whether the proposed project presents significant new circumstances or information relevant to environmental concerns that were not addressed by the EA. The findings of this SA determine whether additional NEPA analysis is needed pursuant to 40 Code of Federal Regulations (CFR) § 1502.9(c).

### **Proposed Action**

Lower McCarthy Creek is a floodplain tidal wetland along Multnomah Channel, approximately 4 miles downstream from the southern confluence of Multnomah Channel and the Columbia River. The site is bound by Multnomah Channel to the east and the West Hills to the west. An undersized culvert is located in a floodplain swale on the northwestern side of the property which becomes flooded during higher water flows and backwatering. The site is currently limited by extensive amounts of invasive reed canarygrass, limiting the wetland plant diversity and negatively impacting the riparian corridor.

Work elements for this restoration project include the removal of the undersized culvert, strategic lowering of marshplain elevations, installation of Beaver Dam Analogs (BDAs) and large wood habitat logs, and replanting of native riparian plants. The work is planned to start in July 2019 and continue through October 2019.

Almost all of the restoration actions would be completed away from the existing waterway. Fish salvage would only be conducted if log mats are needed to cross McCarthy Creek during mobilization/demobilization. During summertime conditions when the in-water work would occur, water depths in McCarthy Creek are only a few inches and stream temperatures are above 68 degrees Fahrenheit. The stream does not support salmonids during the summertime. Log mats would be placed during low tide at the upstream section of the Creek where water levels are less than a few inches deep. As soon as equipment passes across the stream, the log mats would be removed from the Creek. This impact would be limited to approximately 30 minutes for mobilization and demobilization.

Marshplain lowering at the southern end of the work area would be completed with excavators, a bulldozer, and haul trucks. This area is completely dominated by reed canarygrass. Excavators would remove the soils and the bulldozer would be used to shape the side slopes. Removed soils would be trucked to the wetland enhancement area. An earthen berm would be kept alongside the work area between the marshplain lowering and McCarthy Creek. Once all the grading is complete, this earthen berm "plug" would be removed, connecting the lowered marshplain to McCarthy Creek (above an elevation of 9.0 feet NAVD88).

Wetland enhancement areas are planned as the disposal locations for all the excavated soils and organic matter from the southern marshplain lowering work area. The site is bound by an earthen berm and is dominated by reed canarygrass, with some Himalayan blackberry. The site contains hydric soils, but the invasive plant dominance makes it a wetland with limited habitat value. The project proposes to place excavated soils in this location below the ordinary high water (OHW) line and replant with shrub/scrub wetland plants. Adding these plants into the wetland would transform it from a reed canarygrass-dominated wetland into a wetland with greater plant diversity in the form of snowberry, willow, and other native riparian shrubs.

Reed canarygrass removed from the excavation area would be placed at the bottom of the disposal area and covered with native soils from the excavation area. Hydric soils at this site exist up to approximately an elevation of 20.0 feet (NAVD88). To prevent any conversion of wetlands into uplands, soils would not be placed higher than an elevation of 18.5 feet (NAVD88). Materials would be placed off the side of the existing earthen berm and graded with the bulldozer to create a 0.5-1% slope over the top, with 6:1 side slopes. This area would be heavily replanted with native riparian plants such as snowberry, willow, elderberry, etc. Post-project monitoring and maintenance would be planned for this site to ensure that it is retaining native plant cover and wetland functions and values.

Marshplain lowering on the northern end of the work area would be completed with excavators, a bulldozer, and haul trucks. This work area is completely dominated by reed canarygrass. Excavators would remove the soils and the bulldozer would be used to shape the side slopes. Removed soils would be trucked directly to the upland disposal location.

The work area on the northern end contains a higher elevation side channel of McCarthy Creek. During the summertime, this side channel becomes mudflats. To isolate the work area, a sandbag cofferdam would be installed in this higher flow side channel. An earthen berm would also be kept in place between the work area and the adjacent McCarthy Creek. Once all the grading is complete, this earthen berm "plug" would be removed, connecting the lowered marshplain to McCarthy Creek (above elevation 9.0 feet NAVD88).

Marshplain lowering along the edges of an existing seasonal pond would be completed with excavators, a bulldozer, and haul trucks. This work area is slightly higher than the existing seasonal pond; hence, it is dominated by reed canarygrass. Excavators would remove the soils and the bulldozer would complete the grading. Removed soils would be trucked directly to the upland disposal location. The sandbag

cofferdam would completely isolate this work area and would be removed once all the grading work is completed.

The upland disposal location would be located along the existing high ground on the western portion of the site, well above the extent of hydric soils. Reed canarygrass removed from the marshplain lowering areas on the northern side of McCarthy Creek would be trucked to the uplands disposal area and buried with organic soils from the lowered marshplain areas. A bulldozer would grade the site to a 2-4% grade with 3:1 side slopes. The disposal area would be revegetated with native grasses and clusters of Oregon white oak and other native trees.

The undersized, small diameter (24-inch), concrete culvert would be removed from the swale with an excavator and haul truck. This culvert is completely blocked with sediment and exists in a depressional swale which becomes inundated with water during higher flow conditions. During the summertime, when construction is taking place, there is no standing water in the swale. The culvert would be completely removed from the site and taken offsite for disposal. No additional channel work is planned for the swale.

Two types of BDAs are planned for the site. Type 1 is composed of willow cuttings. Type 2 is composed of imported untreated wooden posts and willow cuttings. Both types of BDAs would be installed in the newly-lowered marshplain and the culvert removal area, prior to the reconnection of the work areas to McCarthy Creek. Excavators would push the logs and posts into the wetland soils. The willow cuttings would be woven into the BDAs by hand.

Large wood habitat logs would be installed in the lowered marshplain as well as along McCarthy Creek. These would be keyed into the wetlands with excavators. They would be installed during the late summertime and at low tide when there is no flow in the channel. No anchoring or cables would be used for these logs.

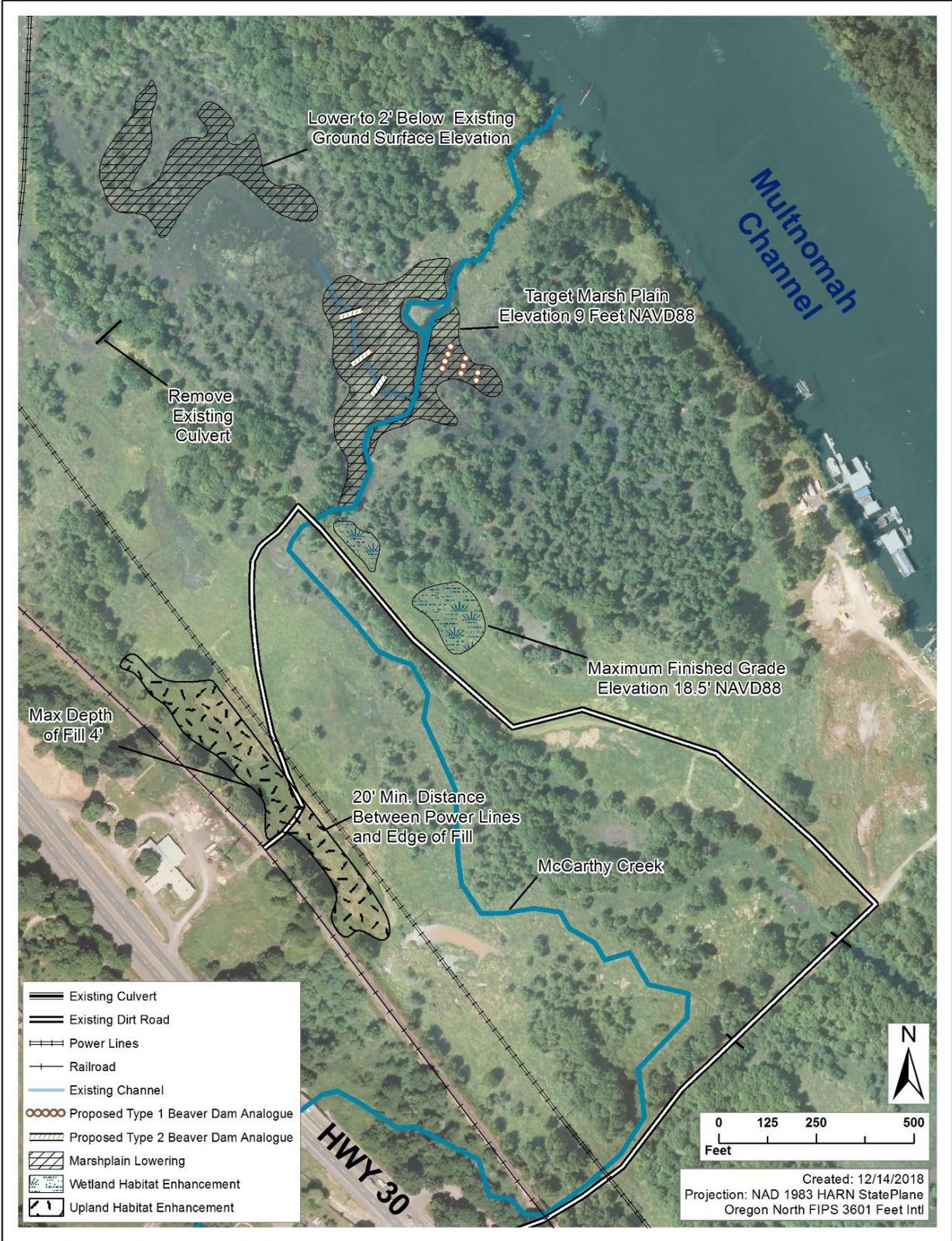


Figure 1. McCarthy Creek Phase II Project

BPA proposes to fund the Columbia River Estuary Study Taskforce (CREST) to undertake the McCarthy Creek Phase II Restoration Project. Improving floodplain connectivity and enhancing the naturally functioning, dynamic wetland system would help to address key limiting factors for habitat needs of juvenile salmonids and wildlife species in the region. The overall goal of the McCarthy Creek Phase II Restoration Project is to return full floodplain connectivity and juvenile salmonid access from Multnomah Channel to the backwater sloughs, wetlands, and riparian areas along lower McCarthy Creek.

The proposed project has two overarching objectives, which are shown below. The bullets below each objective demonstrate the actions that would be taken to ensure each objective is met.

**Objective 1: Enhance fish access and improve hydrologic connectivity to Multnomah Channel**

- Remove an undersized culvert and associated earthen berm
- Contour bank to emulate natural channel geometry to achieve optimal velocities for fish passage
- Install plantings to soften channel edge and enhance riparian vegetation

**Objective 2: Increase native wetland plant diversity**

- Lower marshplain surfaces to increase frequency, duration, and magnitude of water inundation to reduce germination and colonization capacity of invasive species
- Replant lowered marshplain with native emergent species to jump-start seed bank and prevent re-infestation of invasive non-native plant species
- Install BDAs to prolong duration of inundation and increase channel complexity

The proposed actions would improve habitat for three species of salmon (chum, Chinook, and coho) listed under the Endangered Species Act (ESA), as well as other fish and wildlife. The proposed actions are consistent with those considered in the Programmatic Estuary EA, including the following Columbia River Estuary (CRE) Module management actions, developed by the National Marine Fisheries Service to aid in the recovery of salmon and steelhead throughout the region listed below.

- CRE-1: Restore and maintain ecological benefits in riparian areas, and manage vegetation on dikes and levees
- CRE-3: Protect or enhance instream flows to support fish and wildlife
- CRE-6: Beneficial use of dredged materials, including notching or scraping down of existing materials; also includes placement of new materials for habitat enhancement or creation
- CRE-9: Restore degraded off-channel habitats with high intrinsic potential for increasing habitat quality
- CRE-10: Improve access to off-channel habitats by breaching, lowering the elevation, or relocating dikes and levees to restore tidal marsh and shallow-water habitats and tidal channels
- CRE-15: Implement projects to reduce the introduction and spread of invasive plants.

As discussed in the Programmatic Estuary EA, the following activities fall within the above CRE Module Project categories and would be implemented for the McCarthy Creek Phase II Restoration Project:

- Placement and maintenance of habitat features to provide structural complexity via the addition of large wood, rock, or other natural materials
- Removal of invasive emergent and upland plants and weeds by chemical or mechanical means (chemical treatment for control of floating-leaved or submerged invasive plants is not included)
- Plant and protect native vegetation

- Implement practices to beneficially use dredged material by removing/relocating previously placed materials to increase inundation or access to off-channel habitat or by strategically placing dredged materials to enhance or create wetlands or tidal marsh
- Channel excavation and grading with localized effects on hydrology – Channel work would usually include excavation in floodplains to restore historical tidal channels previously modified through grading, drainage tiles, and linear drainage ditch networks.
- Long-term maintenance of completed estuary restoration projects
- Levee and dike removal and breaching – This work entails the removal of water-excluding structures that results in the flooding of previously dewatered lands. It also includes the removal of flow-controlling structures not associated with dewatered sites. These actions restore hydrologic processes during high flow (riverine or tidal) and may include entire removal, or strategically located breaches, with the intent that natural erosional processes would complete the action.
- Restoration related ground disturbance and earthwork associated primarily with levee removal, ditch filling, and tidal channel creation
- Construction-related fish salvage and in-water work

### **Public Scoping, Comments, and Responses**

BPA's public scoping began on June 12, 2019, when BPA posted a description of the McCarthy Creek Phase II Restoration Project proposal to BPA's website. The website specified individuals to contact for further information on the proposal.

### **Environmental Effects**

The typical environmental impacts associated with the Columbia Estuary Ecosystem Restoration Program (CEERP) are described in Chapter 3 of the Programmatic Estuary EA, and are incorporated by reference and summarized in this document. Below is a description of the potential site-specific impacts of the McCarthy Creek Phase II Restoration Project and an assessment of whether these impacts are consistent with those described in the Programmatic Estuary EA.

Much of the site-specific analysis cited in the environmental impacts section below comes from several sources: CREST's Project Notification Form for BPA's Habitat Improvement Program Biological Opinion; CREST's Joint Permit Application; CREST's Wetland Assessment; Wolf Water Resources 90% design plan set; Flood Analysis Technical Memorandum from Wolf Water Resources.

#### **1. Fish**

Overall, the action is expected to have moderate, beneficial effects on fish. ESA-listed fish in proximity to the project area include chum, coho, Chinook, and steelhead. McCarthy Creek is designated Critical Habitat for Lower Columbia River coho salmon under the ESA. Multnomah Channel is designated Critical Habitat for Lower Columbia River coho, Chinook, and steelhead. Both McCarthy Creek and Multnomah Channel are considered essential fish habitat (EFH) under the Magnuson-Stevens Act because both provide habitat for coho and/or Chinook salmon. Almost all the work would be completed away from the existing waterway and work area isolation would be used in areas with water. Furthermore, during summertime conditions when construction is proposed, water depths in McCarthy Creek are only a few inches and stream temperatures are above 68 degrees Fahrenheit. The stream does not support salmonids during the summertime and therefore, no direct effects to salmonids as a result of construction are anticipated. Fish salvage, which could cause a direct effect to fish, would only be necessary if log mats are needed to cross McCarthy Creek during mobilization or demobilization. Log mats would be placed during low tide at the upstream section of the creek where water levels are less

than a few inches deep. As soon as equipment passes across the stream, the log mats would be removed from the creek. This impact would be limited to approximately 30 minutes for mobilization and demobilization.

After construction is complete, when rainfall or surface flow first enters onto newly disturbed soil in the project area, turbidity in McCarthy Creek and the Multnomah Channel could be elevated temporarily. However, injury or mortality to fish is unlikely to occur due to the limited duration and spatial extent of the impact, the erosion and sediment control measures used to limit sediment discharges into McCarthy Creek, and the high dilution levels that would be provided by the Multnomah Channel.

Beneficial effects would far outweigh the temporary negative impacts. These include: increased access to food, resting, and growth areas in McCarthy Creek and its associated floodplain; and improved fish passage through the removal of the undersized culvert.

These impacts are consistent with the analysis in the Programmatic Estuary EA, Section 3.2.4, which concludes that impacts to fish would be moderate and beneficial because of the increased food web support, conversion of vegetation to more natural conditions, restored and improved hydrology, and enhanced water quality.

## **2. Hydrology and Hydraulics**

A hydraulic modeling assessment was conducted for the McCarthy Creek Phase II Restoration Project to examine the hydraulic behavior of the site pre- and post-project to verify that project objectives and constraints would be met. The project intends to restore floodplain connectivity, without any unforeseen flooding impacts. The hydraulic modeling showed that the floodplain restoration actions carried out by the proposed project would not cause a rise in the 100-year flood elevation in the project area. Furthermore, any negligible changes that would occur would not impact upstream or downstream properties. The analysis shows that the flood carrying capacity in the project vicinity would be maintained; the inundation area would not increase; and there would be no measurable increase in base flood levels.

With greater floodplain connectivity at the site, wetland hydrology would be anticipated to improve which could expand wetland area, re-establish native vegetative communities, and control the proliferation of invasive non-native plant species, specifically, reed canarygrass.

The impacts that have been outlined are consistent with the analysis in the Programmatic Estuary EA, Section 3.3.3, which concludes that impacts to hydrology and hydraulics would be moderate. These impacts discussed in the Programmatic Estuary EA, Section 3.3.3 include: erosion, scour, and in-channel deposition; increased frequency and duration of inundation; localized changes in velocity, flow, and circulatory patterns; reconnection of channel habitats; and increased instream flows.

## **3. Water Quality**

Over the long-term, water quality in the project vicinity is anticipated to improve. As previously stated, during the summertime, McCarthy Creek is above 68 degrees Fahrenheit and consequently does not support salmonids. Reconnecting the floodplain at the site would increase hydraulic mixing of stream and tidal flows at the site. This would improve water quality, providing cooler conditions for all aquatic organisms.

In the short term, during first re-watering after construction, slight, localized increases in suspended sediment could occur in McCarthy Creek and Multnomah Channel, but these impacts would be short in duration, diluted by high flows, and mitigated by following erosion and sediment control practices.

The impacts associated with the project are consistent with those described in the Programmatic Estuary EA, Section 3.4.3, which concludes that effects to water quality would be low to moderate and mitigated by erosion and sediment control practices. The impacts discussed in the Programmatic Estuary EA, Section 3.4.3 include: construction-related turbidity and erosion; increased composition of native vegetation; increased quantity of tidal marsh habitat; increased flows, tidal exchange, and flushing; increased channel complexity and alignment; and decreased composition, distribution, and quantity of invasive species.

#### **4. Geomorphology, Soils, and Topography**

Direct impacts to soils would result from temporary construction activities, including vegetation clearing, grading, and compaction of soils by heavy equipment during construction. Clearing and grading would remove both vegetation and topsoil. Compaction from heavy equipment degrades soil structure, reducing pore space needed to retain moisture and promote gas exchange.

Short-term construction-related impacts would include a temporary increase in soil erosion or temporarily elevated suspended sediments in McCarthy Creek and Multnomah Channel. These impacts would be mitigated by the use of erosion and sediment control devices, designed and installed by a certified erosion control specialist.

Over the long term, impacts would be beneficial due to the restoration of the natural soil-forming process, sediment flushing, and floodplain function. Furthermore, the McCarthy Creek floodplain would stabilize due to the installation of native plantings.

Project impacts are consistent with those described in the Programmatic Estuary EA, Section 3.5.3, which predicted that construction would have moderate temporary effects, and that long-term impacts would be beneficial. The impacts discussed in the Programmatic Estuary EA, Section 3.5.3 include: temporary erosion and sedimentation; altered channel form, structure, and density; localized changes in velocity, flow, and circulatory patterns; restored sediment transport; and restored spatial and temporal connectivity of streams and wetlands.

#### **5. Sediment Quality**

During construction, the project would remove about 15,450 cubic yards of material from below the OHW line of McCarthy Creek in the form of soil, concrete, and rebar. The concrete and rebar would be hauled offsite and disposed of at an approved facility. About 1,170 cubic yards of soil would be placed in the designated upland disposal areas within the 100-year floodplain and 3,535 cubic yards of material would be placed below OHW in the form of soil, logs, willow cuttings, and wood posts. The project-related earthwork would loosen sediments in and around McCarthy Creek, which would later be suspended in the water column and redistributed within the estuary upon rewatering.

These impacts are less than those described in the Programmatic Estuary EA, Section 3.6.3, which concluded that effects to sediment quality would be moderate. The impacts discussed in the Programmatic Estuary EA, Section 3.6.3 include: changing hydrologic flow patterns; floodplain and tidal reconnection; increasing organic materials in sediments; and introduction of pollutants.

#### **6. Air Quality**

Vehicle emissions during the transportation and operation of construction equipment could cause a minor temporary decrease in air quality for the duration of on-the-ground construction work. Impacts would be low and would not result in violations of state air-quality standards. As described in the Programmatic Estuary EA, Section 3.7.3, impacts on air quality would be low both in concentration and duration. The impacts discussed in the Programmatic Estuary EA, Section 3.7.3 include: temporary and

localized increase in dust and pollutants, such as carbon monoxide, nitrogen dioxide, particulates, sulfur dioxide, ozone, or lead.

## **7. Wildlife**

In the short term, noise and visual disturbance during construction would likely cause wildlife to avoid the project area during the construction period. If present during construction, nesting birds, smaller ground-dwelling mammals, reptiles, and amphibians could be harmed or killed incidentally during construction. In the longer term, effects to wildlife are expected to be beneficial. The action would improve breeding and feeding habitat for semi-terrestrial animals such as beaver, amphibians, waterfowl, shorebirds, and insect-eating birds. Likewise, wildlife that use riparian areas would benefit from the planting of native shrubs in the McCarthy Creek floodplain.

The project area does potentially contain habitat for ESA-listed Columbian white-tailed deer and yellow-billed cuckoos. Columbian white-tailed deer are known to occupy areas nearby at the Scappoose Industrial Airpark to the north and Sauvie Island to the northwest. Neither fencing nor herbicide application is proposed by the McCarthy Creek Phase II Restoration Project and therefore, measurable effects to Columbian white-tailed deer are not anticipated. Furthermore, the action would avoid impacts by observing herbicide-buffer zones and timing restrictions developed by BPA and U.S. Fish and Wildlife Service (USFWS) to avoid adverse effects to the deer. The project does not anticipate effects to breeding yellow-billed cuckoos because no large trees or other significant habitat features are being removed as part of the project. BPA consulted with USFWS about impacts to yellow-billed cuckoos and Columbian white-tailed deer, and concurrence was obtained on March 26, 2019, and April 8, 2019, respectively.

These impacts are consistent with the Programmatic Estuary EA, Section 3.8.3, which concluded that effects to wildlife would be moderate and beneficial. The impacts discussed in the Programmatic Estuary EA, Section 3.8.3 include: noise or visual disturbance to wildlife, displacement of individual animals, and habitat conversion.

## **8. Wetlands, Floodplains, and Vegetation**

In the short term, construction would directly affect regulated waters in the project area. Excavation would occur below the OHW line of the McCarthy Creek channel, but these areas would be restored following construction. In the long term, the project could potentially increase the acreage of wetlands by introducing Multnomah Channel flows to areas of the McCarthy Creek floodplain that are now inundated less frequently. Additionally, wetland quality would improve due to the restoration of natural flow patterns and the replacement of invasive species with native plants.

These impacts are consistent with the Programmatic Estuary EA, Section 3.9.3, which predicted moderate and beneficial effects. The impacts discussed in the Programmatic Estuary EA, Section 3.8.3 include: alteration of wetland hydrology; restoration of wetland-forming processes; increased wetland area, habitat complexity, composition of native vegetation, riparian buffer area, vegetation cover, and quantity of tidal marsh habitat flows, tidal exchange, and flushing; and decreased composition, distribution, and quantity of invasive species.

This Floodplain Statement of Findings was prepared in accordance with the Department of Energy's NEPA implementing regulations and in compliance with Floodplain and Wetland Environmental Review Requirements (10 Code of Federal Regulations 1021 and 1022). Chapters 3, 4, and 5 of the Programmatic Estuary EA provide an assessment of impacts to floodplains and wetlands. Consistent with the Programmatic Estuary EA (including Section 3.9.9), the McCarthy Creek Phase II Restoration Project would restore floodplain connectivity and function and improve wetland function and value, as described above. Additionally, the project would not result in floodplain development. While the project

may impact wetlands in the short term, the overall long-term impacts would be beneficial, because the goal of the project is to increase native wetland plant diversity and improve overall wetland quality, compared to the current condition.

### **9. Land Use and Recreation**

The project area is zoned for agricultural use, but is primarily utilized for hunting waterfowl. The Natural Resources Conservation Service (NRCS) holds a conservation easement with the private landowner and has entered into a cooperative agreement with the West Multnomah Soil and Water Conservation District (WMSWCD) to manage vegetation on the property where the project is being undertaken. In the short term, the project construction is not anticipated to affect waterfowl hunting as the project is planned to be implemented prior to the waterfowl hunting season that starts in October. In the long term, improving wetland hydrology and plant diversity as well as floodplain connectivity should have a beneficial effect to the waterfowl hunting that occurs in the project vicinity as the improved habitat may draw more waterfowl to the site.

These impacts are consistent with the Programmatic Estuary EA, Section 3.10, which described low to moderate impacts to land use and recreation. The impacts discussed in the Programmatic Estuary EA, Section 3.10.3 include: removal of drainage structures, and changes in access to recreational opportunities.

### **10. Cultural Resources**

The NRCS, which BPA designated as the lead Federal agency for National Historic Preservation Act Section 106 consultation, completed its site-specific Section 106 consultation on January 30, 2019, determining that the project would have no adverse effect to historic properties. The NRCS consulted with the Oregon State Historic Preservation Office, Confederated Tribes of the Grand Ronde, Confederated Tribe of Siletz Indians, Cowlitz Indian Tribe, and Confederated Tribes of the Warm Springs Reservation of Oregon.

Cultural resources impacts are consistent with the analysis in the Programmatic Estuary EA, Section 3.11.3. That is, the action would not impact historic sites, and impacts to cultural resources uncovered during construction would be mitigated by the use of Inadvertent Discovery Plans (IDPs). Therefore, impacts would be low. The impacts discussed in the Programmatic Estuary EA, Section 3.11.3 include: reestablishment of tidal channels, reestablishment of wetland and riparian plant communities, and removal of structures.

### **11. Socioeconomics**

The project would result in small, temporary, beneficial impacts to socioeconomics by providing jobs for construction workers. Long-term benefits could result from the improvement of fish runs and natural scenery. The action would not displace residents or degrade residential suitability; nor would it cause changes to the tax base. The project area is on private land and is not easily accessed by the public, though access may be possible in a small water craft during higher flows.

The expected socioeconomic impacts would be low, consistent with those described in the Programmatic Estuary EA, Section 3.12.3. The impacts discussed in the Programmatic Estuary EA, Section 3.12.3 include: short-term employment opportunities, local short-term traffic or lifestyle disruptions due to construction, land use conversion, and improvements to fisheries.

### **12. Visual Resources**

The project area cannot be easily seen from U.S. Highway 30 as there is vegetation and a railroad grade between the project area and the road; however, one of the equipment staging areas and material

disposal areas would be located along the railroad grade. During construction, equipment and bare soil may be visible from U.S. Highway 30 in this location or from the Multnomah Channel. The visual effects of the bare soil would be mitigated by the installation of erosion and sediment control devices and replanting of all areas of bare soil.

From the private property, much of the project area may be visible during construction. In the long term, the visual effects on the private property would be mitigated by installation of erosion and sediment control devices and replanting bare soil areas and temporary access roads and staging areas. Furthermore, removal of the undersized concrete culvert on McCarthy Creek would increase hydrologic connectivity, resulting in an increase in the function of the wetland within the project site. The improved floodplain area would be seeded and planted with native woody riparian vegetation, resulting in a more natural looking environment.

These impacts are consistent with the visual resources analysis in the Programmatic Estuary EA, Section 3.13.3, which characterized these effects as low to moderate. The impacts discussed in the Programmatic Estuary EA, Section 3.13.3 include: short-term visual impacts related to construction, and long-term impacts associated with changing the visual condition from a managed state to a more natural landscape.

### **13. Noise, Hazardous Waste, Public Health, and Safety**

Noise level is expected to increase intermittently above ambient conditions during the construction period. The project would not result in any long-term effects to ambient noise levels during operation. Requirements to minimize these effects would be considered during the development of construction specifications.

This is consistent with the analysis in the Programmatic Estuary EA, Section 3.14.3, which described low effects to noise, hazardous waste, public health, and safety. The impacts discussed in the Programmatic Estuary EA, Section 3.14.3 include: short-term noise during construction and maintenance, potential encounters with contaminated media during construction, and risks to safety due to change in hydrologic regime after construction.

### **14. Transportation and Infrastructure**

The project is not anticipated to have impacts on transportation and infrastructure during construction. This is consistent with or less than the effects in the Programmatic Estuary EA, Section 3.15.3, which described moderate effects to transportation.

The project would not have any impacts on navigation within the Multnomah Channel. This is consistent with or less than the effects in the Programmatic Estuary EA, Section 3.15.3, which described low effects to navigation.

The impacts discussed in the Programmatic Estuary EA, Section 3.15.3 include: temporary increase in traffic, changes in navigation, and potential damage to infrastructure due to changes in flow patterns.

### **15. Climate Change**

Vehicles and equipment operating during construction and maintenance of the project could have negative impacts to climate change. However, over the long term, effects are expected to be positive, as the restoration would create a carbon sink that would store carbon dioxide and help mitigate for the release of greenhouse gases.

Plantings would be adaptively managed to address long-term changes in climate (and resulting effects to salinity, surface-water elevation, and groundwater elevation). Marshplain, wetland, and upland areas

would be replanted, immediately after construction is completed. All areas would be planted with a variety of native species at a range of elevations to allow plants to adapt to a range of water levels and other fluctuating environmental conditions. WMSWCD would be monitoring and maintaining the plantings over a 5-year period (beginning in 2019) and replanting if necessary. Although climate change may increase temperatures, change precipitation patterns, cause more extreme weather events, and raise sea levels, these impacts would likely occur regardless of the McCarthy Creek Phase II Restoration project. Removal of the undersized concrete culvert would create a larger opening that would pass larger flows. Likewise, improving access to the McCarthy Creek floodplain would provide refuge areas to juvenile fish during more extreme flows in the Columbia River.

Overall, the long-term impacts on climate change from the project are expected to be low and beneficial, consistent with the impacts described in the Programmatic Estuary EA, Section 3.16.3. The impacts discussed in the Programmatic Estuary EA, Section 3.16.3 include: both the release and sequestration of greenhouse gases, and the buffering of sea-level rise, particularly during extreme flows.

### **Findings**

This SA finds that the types of actions and the potential impacts related to the proposed McCarthy Creek Phase II Restoration Project have been examined, reviewed, and consulted upon and are similar to those analyzed in the Columbia Estuary Ecosystem Restoration Program Environmental Assessment (DOE/EA-2006) and Finding of No Significant Impact. There are no substantial changes in the proposed action and no significant new circumstances or information relevant to environmental concerns bearing on the proposed action or its impacts within the meaning of 10 CFR § 1021.314(c)(1) and 40 CFR §1502.9(c). Therefore, no further NEPA analysis or documentation is required.

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Date: June 25, 2019